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| Supplemental Digital Appendix 1: Two Versions—(1) Weaknesses in Medical Expertise and (2) Weaknesses in Communication—of the Educational Handover Reports Created for, Respectively, Each of the Two Simulated Residents Depicted in Videos for a 2018 Study Examining the Influence of Educational Handover on Assessment | 1-7 |
| Supplemental Digital Appendix 2: Adapted Version of the Mini-CEX Form Used by Participants to Rate the Performance of the Two Simulated Residents in a 2018 Study Examining the Influence of Educational Handover on Assessment | 8 |
| Supplemental Digital Appendix 3: Findings From Analyses of Potential Moderating Variables in a 2018 Study Examining the Influence of Educational Handover on Assessment | 9-11 |

Supplemental Digital Appendix 1

Two Versions—(1) Weaknesses in Medical Expertise and (2) Weaknesses in Communication—of the Educational Handover Reports Created for, Respectively, Each of the Two Simulated Residents Depicted in Videos for a 2018 Study Examining the Influence of Educational Handover on Assessment

Order:

Before Video 1: Dr Wheeler – version with comments noting weaknesses in medical expertise followed by version with comments noting weaknesses in communication (control group received no handover report)

Before Video 2: Dr Wilson – version with comments noting weaknesses in medical expertise followed by version with comments noting weaknesses in communication (control group received no handover report)

All the rating scales were scored as satisfactory – only comments differed.

| | |
|-------------------|--|
| McGill University | Evaluated By : Dr Richard Evaluating: Dr Rudolph Wheeler Dates: 01-07-2018 to 31-08-2018 |
|-------------------|--|

MEDICAL EXPERT

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| Appropriately performs patient history and physical examination presentation of patients | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Implements a patient-centered care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

COMMUNICATOR

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| Conveys compassion and empathy in communications with patients and families | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Uses patient-centered interviewing skills to effectively gather relevant biomedical and psychosocial information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

COLLABORATOR

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|---|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| Interacts and consults effectively with all health professionals by recognizing and acknowledging their roles & expertise | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Accurately and effectively delegates patient care to another health care professional to facilitate continuity of safe patient care | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

LEADER

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|---|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| Understands and uses information technology | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Organizes work and manages time effectively | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

SCHOLAR

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------|----------------|------------|--------------|----------|
| Facilitates the learning of patients, families, other trainees, and health professionals | ○ | ○ | ○ | ● | ○ |
| Demonstrates motivation to acquire and develop knowledge | ○ | ○ | ○ | ● | ○ |

HEALTH ADVOCATE

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------|----------------|------------|--------------|----------|
| Advocates for individual patients' and families' health needs | ○ | ○ | ○ | ● | ○ |
| Understands the local population and advocates for the health of the community | ○ | ○ | ○ | ● | ○ |

PROFESSIONAL

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------|----------------|------------|--------------|----------|
| Demonstrates an understanding of and ability to incorporate into practice the professional, ethical and legal principles implicated in the management of injured patients. | ○ | ○ | ○ | ● | ○ |
| Recognizes own limitations and seeks advice when needed | ○ | ○ | ○ | ● | ○ |

OVERALL

| | Incomplete | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|------------|----------------|------------|--------------|----------|
| *GLOBAL EVALUATION OF COMPETENCE AND PROGRESS | ○ | ○ | ○ | ● | ○ |

| COMMENTS (Including Strengths, Weaknesses and Suggestions for development.) |
|---|
| <p>Description of performance during the rotation Rudolph spent eight weeks in this rotation during which time he was observed performing three histories and four physical examinations as well as placing a central line. His performance was discussed with all senior residents and attending staff who worked with him during the rotation. He performed overall as expected of an R2 at the beginning of the year. He was reliable, hard-working, and friendly with staff and patients. There were no professionalism lapses. His time management has improved over the course of the rotation and he is becoming more efficient during rounds.</p> <p>Suggestions for development Rudolph needs to work on improving his differential diagnoses. His differentials tend to include “zebras” and miss some key “horses”. He is not yet able to use a meaningful differential to focus his history and physical examination. This results in his asking shot gun questions and not following-up on significant positive and negative. We suggest that Rudolph read around common presentations and develops lists of the most common causes for each. This should help him focus his histories and physical examinations. He should also be observed more frequently performing a focused history.</p> |

COMMENTS (Including Strengths, Weaknesses and Suggestions for development.

Description of performance during the rotation

Rudolph spent eight weeks in this rotation during which time he was observed performing three histories and four physical examinations as well as placing a central line. His performance was discussed with all senior residents and attending staff who worked with him during the rotation. He performed overall as expected of an R2 at the beginning of the year. He was reliable and hard-working, his investigation and management plans for common presentations required few adjustments. There were no professionalism lapses. His time management has improved over the course of the rotation and he is becoming more efficient during rounds.

Suggestions for development

Rudolph clearly takes his responsibilities to patients seriously, however, he can come off as brusque and somewhat distant to colleagues as well as patients. We suggest that Rudolph work on his rapport building with patients in particular.

| | |
|-------------------|---|
| McGill University | Evaluated by : Dr Tremblay Evaluating: Dr John Wilson Dates: 01-03-2018 to 30-04-2018 |
|-------------------|---|

MEDICAL EXPERT

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| Appropriately performs patient history and physical examination presentation of patients | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Implements a patient-centered care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

COMMUNICATOR

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| Conveys compassion and empathy in communications with patients and families | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Uses patient-centered interviewing skills to effectively gather relevant biomedical and psychosocial information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

COLLABORATOR

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|---|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| Interacts and consults effectively with all health professionals by recognizing and acknowledging their roles & expertise | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Accurately and effectively delegates patient care to another health care professional to facilitate continuity of safe patient care | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

LEADER

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|---|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| Understands and uses information technology | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Organizes work and manages time effectively | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

SCHOLAR

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------|----------------|------------|--------------|----------|
| Facilitates the learning of patients, families, other trainees, and health professionals | ○ | ○ | ○ | ● | ○ |
| Demonstrates motivation to acquire and develop knowledge | ○ | ○ | ○ | ● | ○ |

HEALTH ADVOCATE

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------|----------------|------------|--------------|----------|
| Advocates for individual patients' and families' health needs | ○ | ○ | ○ | ● | ○ |
| Understands the local population and advocates for the health of the community | ○ | ○ | ○ | ● | ○ |

PROFESSIONAL

| | Could Not Judge | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|-----------------|----------------|------------|--------------|----------|
| Demonstrates an understanding of and ability to incorporate into practice the professional, ethical and legal principles implicated in the management of injured patients. | ○ | ○ | ○ | ● | ○ |
| Recognizes own limitations and seeks advice when needed | ○ | ○ | ○ | ● | ○ |

OVERALL

| | Incomplete | Unsatisfactory | Borderline | Satisfactory | Superior |
|--|------------|----------------|------------|--------------|----------|
| *GLOBAL EVALUATION OF COMPETENCE AND PROGRESS | ○ | ○ | ○ | ● | ○ |

| COMMENTS (Including Strengths, Weaknesses and Suggestions for development.) |
|--|
| <p>Description of performance during the rotation This report is based on information gathered from attending staff and nurses on the ward following John's eight weeks with us. John was exposed to a variety of cases, from the common and benign to severely ill patients as well as patients with rare diseases. John was a solid member of the team during this time. He was reliable and asked questions when he was unsure about anything. He was eager to do his job well and to learn, he responded well to feedback. He was well liked by patients and staff. John was thorough. His thoroughness tended to make him inefficient and unfocused. His case presentations tended to be very detailed and he struggled to convey the priority issues of each case. His investigation and management plans often needed to be streamlined.</p> <p>Suggestions for development John should work on synthesizing the key issues for each patient, and try to see the big picture. This will enable him to tailor investigation and management plans to the individual patient as opposed to addressing every single issue in isolation.</p> |

COMMENTS (Including Strengths, Weaknesses and Suggestions for development.

Description of performance during the rotation

This report is based on information gathered from attending staff and nurses on the ward following John's eight weeks with us. John was exposed to a variety of cases, from the common and benign to severely ill patients as well as patients with rare diseases. John was a solid member of the team during this time. He was reliable and asked questions when he was unsure about anything. He was eager to do his job well and to learn, he responded well to feedback. John was thorough yet reasonably efficient, his case presentations were accurate and complete. His investigation and management plans were good.

Suggestions for development

John struggles to put patients at ease and can be a little awkward. This could just be because he is shy and reserved, and hopefully will improve as he gains in confidence. We recommend this be monitored to ensure that he is able to build rapport with patients and gain their trust.

Supplemental Digital Appendix 2

Adapted Version of the Mini-Clinical Evaluation Exercise (Mini-CEX) Form Used by Participants to Rate the Performance of the Two Simulated Residents in a 2018 Study Examining the Influence of Educational Handover on Assessment

1. Medical Interviewing Skills

| UNSATISFACTORY | | | SATISFACTORY | | | SUPERIOR | | |
|----------------|---|---|--------------|---|---|----------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | | | | | | |

2. Humanistic Qualities/Professionalism

| UNSATISFACTORY | | | SATISFACTORY | | | SUPERIOR | | |
|----------------|---|---|--------------|---|---|----------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | | | | | | |

3. Clinical Judgement

| UNSATISFACTORY | | | SATISFACTORY | | | SUPERIOR | | |
|----------------|---|---|--------------|---|---|----------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | | | | | | |

4. Organization/Efficiency

| UNSATISFACTORY | | | SATISFACTORY | | | SUPERIOR | | |
|----------------|---|---|--------------|---|---|----------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | | | | | | |

5. Overall clinical competency

| UNSATISFACTORY | | | SATISFACTORY | | | SUPERIOR | | |
|----------------|---|---|--------------|---|---|----------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | | | | | | |

Comments

Supplemental Digital Appendix 3

Findings From Analyses of Potential Moderating Variables in a 2018 Study Examining the Influence of Educational Handover on Assessment

Table 3A

Mean Score (95% confidence interval) for Video 1 (Simulated Resident 1 Interviewing Simulated Patient 1 With Neck Lump) According to Participant Self-Reported Gender, Self-Reported Assessment Experience, and Mindset for Empathy^a

| | | Control group | Handover report mentions weaknesses in medical expertise | Handover report mentions weaknesses in communication | All |
|--|----------------|----------------------------|--|--|----------------------------|
| Gender (one participant stated their gender as “other” – their data are not presented here – unless aggregated – to preserve anonymity) | Male | n = 12 5.5 (4.7;6.3) | n = 13 4.9 (3.9;5.9) | n = 16 4.9 (4.3;5.6) | n = 41 5.1 (4.7;5.5) |
| | Female | n = 8 5.6 (4.2;7.1) | n = 8 5.1 (3.4;6.8) | n = 13 4.9 (4.1;5.8) | n = 29 5.2 (4.5;5.8) |
| Assessment experience (years) | 0-4 | n = 4 6.3 (3.9;8.6) | n = 1 6.0 | n = 5 4.6 (3.5;5.7) | n = 10 5.4 (4.4;6.4) |
| | 5-9 | n = 5 5.2 (3.8;6.6) | n = 4 5.0 (1.6;8.4) | n = 8 5.0 (4.2;5.8) | n = 17 5.1 (4.4;5.7) |
| | 10+ | n = 12 5.5 (4.5;6.5) | n = 16 4.9 (4.0;5.9) | n = 17 5.0 (4.2;5.8) | n = 45 5.1 (4.6;5.6) |
| Mindset for empathy | Fixed | n = 4 6.0 (3.1;8.9) | n = 6 5.7 (3.4;7.9) | n = 2 5.0 (1;9) | n = 12 5.7 (4.5;6.8) |
| | Indiscriminate | n = 3 6.3 (4.9;7.8) | n = 4 4.0 (2.2;5.8) | n = 2 5.0 | n = 9 5.0 (4.0;6.0) |
| | Growth | n = 14 5.3 (4.5;6.1) | n = 11 5.0 (3.9;6.1) | n = 26 4.9 (4.4;5.5) | n = 51 5.0 (4.6;5.4) |
| All | | n = 21 5.6 (4.9;6.2) | n = 21 5.0 (4.2;5.8) | n = 30 4.9 (4.5;5.4) | |

^aMindset (growth vs. fixed) determined using Pal and colleagues’ instrument to measure mindset regarding empathy (Pal, Young, Danoff, et al. Teachers’ mindsets in medical education: A pilot survey of clinical supervisors. Med Teach. 2020;42:291-298.)

Table 3B

Mean Score (95% confidence interval) for Video 2 (Simulated Resident 2 Interviewing Simulated Patient 2 with Abdominal Pain) According to Participant Self-Reported Gender, Self-Reported Assessment Experience, and Mindset for Empathy^a

| | | Control group | Handover report mentions weaknesses in medical expertise | Handover report mentions weaknesses in communication | All |
|---|----------------------------|----------------------------|--|--|----------------------------|
| Gender (one participant stated their gender as “other” – their data are not presented here – unless aggregated – to preserve anonymity) | Male | n = 12 4.9 (4.0;5.9) | n = 13 4.9 (3.9;5.8) | n = 16 5.0 (4.1;5.9) | n = 41 4.9 (4.4;5.4) |
| | Female | n = 8 4.6 (3.5;5.7) | n = 8 5.3 (4.3;6.2) | n = 13 4.6 (4.0;5.2) | n = 29 4.8 (4.4;5.2) |
| Assessment experience (years) | 0-4 | n = 4 4.5 (1.7;7.3) | n = 1 6.0 | n = 5 4.6 (2.7;6.5) | n = 10 4.7 (3.6;5.8) |
| | 5-9 | n = 5 5.4 (4.7;6.1) | n = 4 4.8 (2.8;6.8) | n = 8 5.0 (3.5;6.6) | n = 17 5.1 (4.3;5.8) |
| | 10+ | n = 12 4.7 (3.7;5.6) | n = 16 5.0 (4.2;5.8) | n = 17 4.9 (4.3;5.6) | n = 45 4.9 (4.5;5.3) |
| Mindset for empathy | Fixed | n = 4 4.8 (4.0;5.6) | n = 6 5.7 (4.2;7.1) | n = 2 3.0 (1;9) | n = 12 4.9 (4.0;5.8) |
| | Indiscriminate | n = 3 5.0 (1;9) | n = 4 4.5 (2.5;6.6) | n = 2 4.0 (1;9) | n = 9 4.6 (3.5;5.6) |
| | Growth | n = 14 4.8 (3.9;5.7) | n = 11 4.8 (3.9;5.8) | n = 26 5.1 (4.6;5.7) | n = 51 5.0 (4.6;5.4) |
| All | n = 21 4.8 (4.2;5.4) | n = 21 5.0 (4.4;5.6) | n = 30 4.9 (4.4;5.5) | | |

^aMindset (growth vs. fixed) determined using Pal and colleagues’ instrument to measure mindset regarding empathy (Pal, Young, Danoff, et al. Teachers’ mindsets in medical education: A pilot survey of clinical supervisors. Med Teach. 2020;42:291-298.)

Table 3C

Tests of Between-Subjects Effects in Repeated-Measures ANOVAs Comparing Means Scores Across Conditions and One of the Moderating Variables (Rater Gender, Experience or Mindset for Empathy), With Videos as Repeated-Measures

| | F value | P value |
|--|-----------------|---------|
| Rater gender | | |
| Gender | F(2, 64) = 0.03 | .97 |
| Interaction with condition | F(4, 64) = 0.24 | .79 |
| Rater Assessment experience | | |
| Assessment experience | F(2, 63) = 0.17 | .85 |
| Interaction with condition | F(4, 63) = 0.30 | .88 |
| Rater Mindset for Empathy – only comparing control group and group where report indicated weaknesses in communication | | |
| Mindset for empathy | F(2, 45) = 0.21 | .82 |
| Interaction with condition | F(2, 45) = 1.13 | .33 |

Abbreviation: ANOVA = analysis of variance.